commercial

canvas shading

the economical solution

to any problem of sun control

residential

institutional

outside shading with canvas allows greater freedom in building orientation and use of glass areas

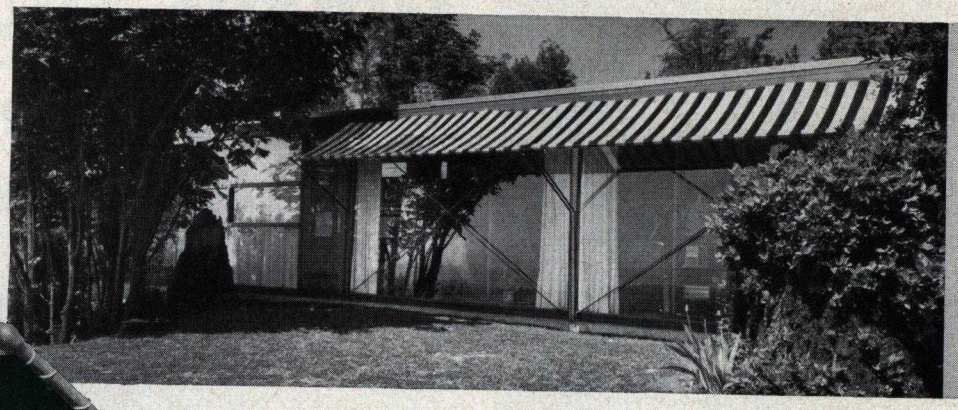
reduction of inside temperatures

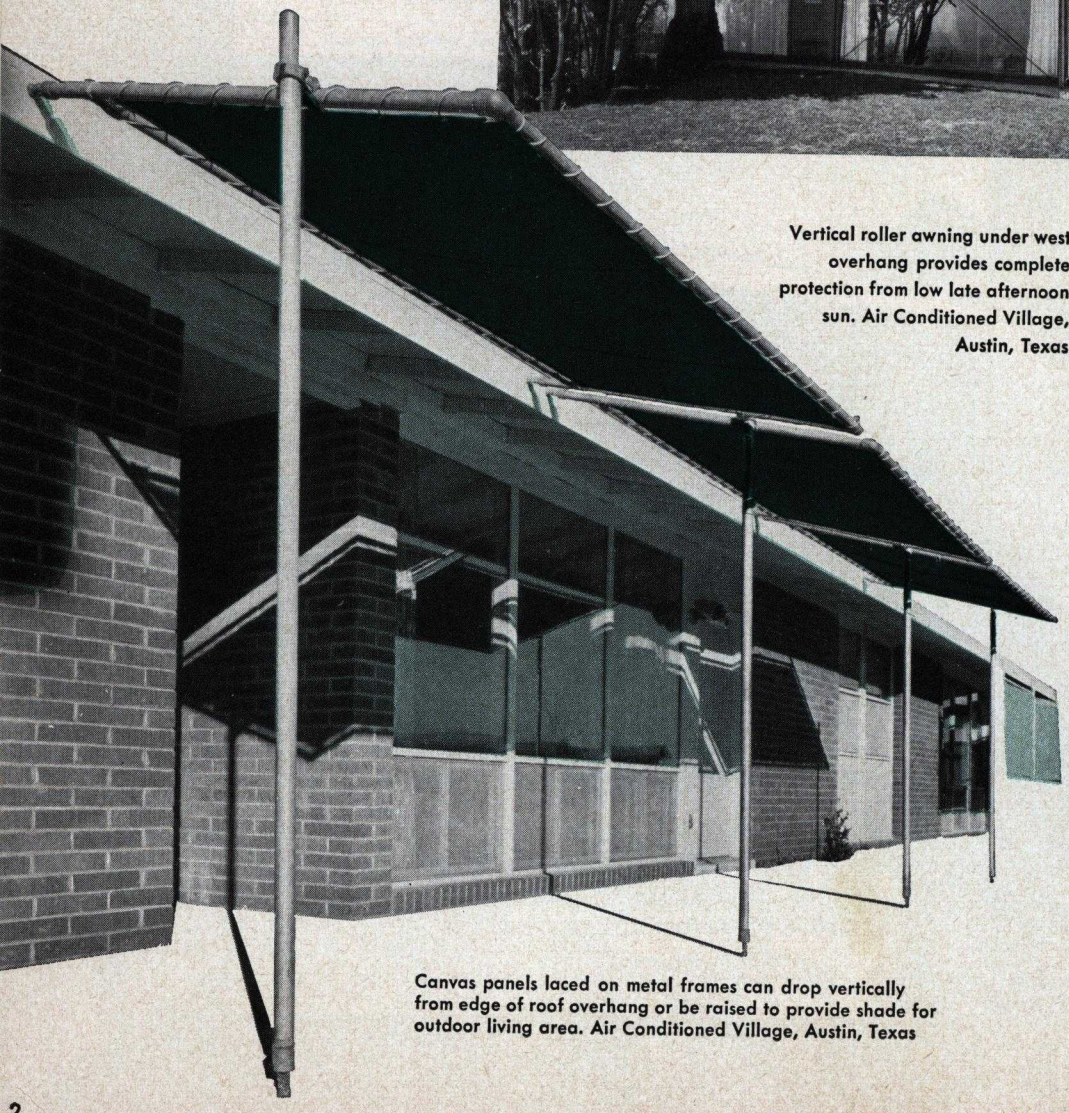
Unshaded glass areas let in 35 times as much heat from the sun and 10 times as much heat from the outside air as insulated wall. Once the sun heat gets through the glass it is too late to do much about it. White curtains or blinds might reflect a quarter or so of it back through clear glass, if kept drawn or closed. But the place to stop sun heat is outside the building where it can do no harm. And the ideal way to stop this heat is with an opaque, flexible obstruction, such as canvas, which is easily adjustable to provide maximum protection when needed, plus minimum interference to circulation and view.

Research on the performance of awnings in reducing heat gain through windows has been carried out by the American Society of Heating and Air Conditioning Engineers. To illustrate the order of magnitude of the solar heat excluded by a canvas awning over a period of a day, the total heat gains through 100 sq. feet of regular plate glass with and without awnings are compared in the adjoining table. Data are for a window facing a dark foreground, an awning with a 70% drop, and for a typical design day (Aug. 1) at 40 degrees North Latitude.

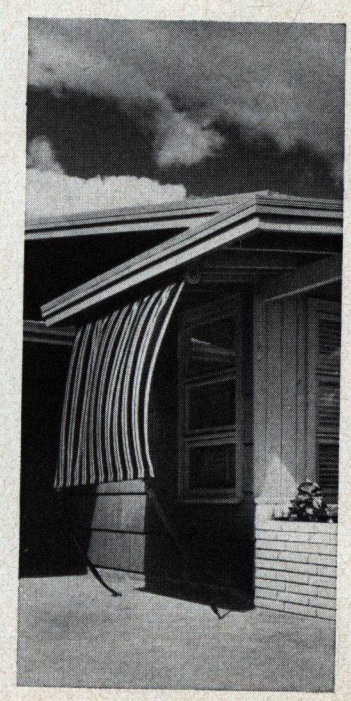
Cover photographs: Bloomingdale's, Stamford, Conn., Raymond Loewy Corp. House Beautiful's 1955 Pace Setter House, Dallas, Texas. The Greenbrier, White Sulphur Springs, West Virginia

Window walls are protected from direct sun rays by stationary canvas installation. Bellevue, Washington. Wendell H. Lovett, Architect





Vertical roller awning under west overhang provides complete protection from low late afternoon sun. Air Conditioned Village, Austin, Texas

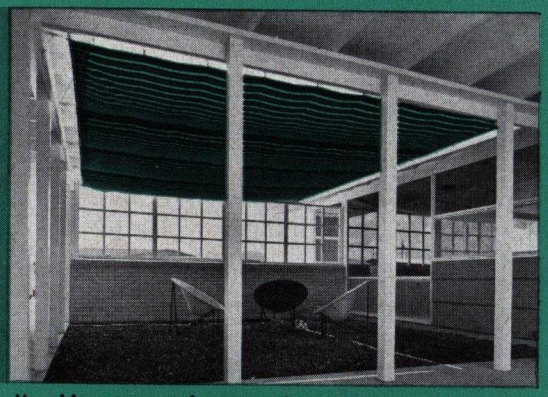


Canvas panels laced on metal frames can drop vertically from edge of roof overhang or be raised to provide shade for outdoor living area. Air Conditioned Village, Austin, Texas

heat exclusion by conventional type canvas awning with sides

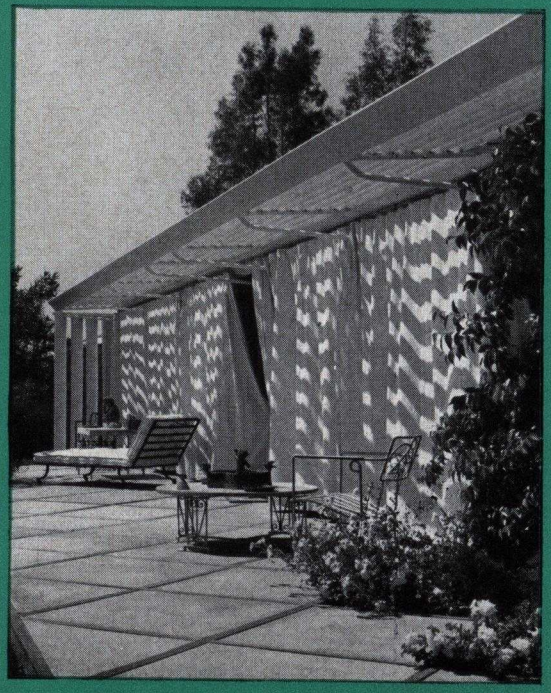
Orientation of Window	Type of Glass and Awning	Heat gain per 100 sq. ft. glass surface Btu/Day	Heat excluded by the Awning	
			Btu/Day	Percent
South[a]	Regular plate glass alone	62200	0	0
South	Glass with white canvas awning	22500	39700	64
South	Glass with green canvas awning	27700	34500	55
West[b]	Regular plate glass alone	84200	0	0
West	Glass with white canvas awning	19500	64700	77
West	Glass with green canvas awning	23900	60300	72

[a]For period from 8 a.m. to 4 p.m.
[b]For period from 12 noon to 5 p.m.



Movable canvas roof operates by pulleys on overhead steel cables, furnishing shade by day, or by night a cool open area. Air Conditioned Village, Austin, Texas

Billowing canvas draperies give the window wall of this desert home needed protection from heat and glare of the sun. Tucson, Arizona. William Wilde, Architect.



lowered air conditioning costs

Since unshaded windows usually are the greatest single source of heat gain, canvas sunshades provide an important means of reducing both the initial cost and operating expense of air conditioning. According to the Official Guide of ASHAE, their opacity will effectively keep out 55 to 77 per cent of the sun's heat, thus lowering capacity requirements of cooling systems and eliminating expensive accessory equipment. Every square foot of unshaded glass adds about $5.00 of air conditioning equipment to the first cost of the building, so that canvas shading more than pays for itself, plus affording a continued savings over the years on operating expense.

complete flexibility of design

The simplicity of canvas fabrication makes it adaptable to all styles of architecture. Canvas installations can be designed in any shape or size, as an integral part of the original plan or added to meet problems of sun protection that arise after construction. Structural support is usually provided by rope and lightweight metal pipe, also flexible and easily-handled materials.

color, texture, softness

As a cotton fabric, canvas has a high affinity for fast and brilliant dyes and paints. There are hundreds of colors available in subdued solids and gay, festive stripes, offering unlimited possibilities for decorative effects. Moreover, the soft texture of the fabric lends a note of lightness to offset the weight of a building mass.

low initial cost and upkeep

Canvas is one of the most economical of all materials used for shading and weather protection. The installation cost is low because minimum structural support is required. While the life expectancy of canvas depends greatly on its care, use, and location, certain general figures are available. A survey by the U. S. Department of Agriculture shows that canvas awnings last on the average of 6.5 years in residential use and 5.1 years in commercial use before replacement. Replacement fabric can be installed on original supporting structure for less than the maintenance cost of competitive materials.

types of canvas

There are many kinds of canvas made for different purposes. The three main types are army ducks, number ducks, and flat ounce ducks. Your local canvas goods manufacturer should be consulted for specifications on types of canvas best suited for the application desired.

Army ducks are designated by weight in ounces per yard of standard width and also by the manner in which color has been applied to the fabric. Color is applied by either painting gray duck or by dyeing the yarns before weaving. The finished fabrics are referred to as painted or woven canvas.

In the manufacture of painted canvas, paint is blown or painted on fabric which has first been piece-dyed a mineral khaki or sulphur pearl-gray shade. Stripes are usually painted only on one side, but the back of the canvas is sometimes given a stipple print treatment to help diffuse light and soften glare. This painting process makes possible an unusually large variety of rich colors, such as gold, aqua, tangerine, emerald green, and rose.

For woven canvas, the threads are dyed before weaving, and the dye penetrates in deep, rich tones to the core of the fiber. Basic colors are green, blue yellow, red, orange, brown, black, and white. Interesting effects are achieved when yarns of different hues are woven together. Color and pattern are alike on both sides.

Woven or painted canvas is sold in weights ranging from 10 to 15 ounces, 31 inch width. For special uses, 15 to 16 inch widths, selvage both sides, are available. Both weight and width should be specified in ordering.

uses, according to weight and width

width	Weight, per sq. yd.	Uses
31″	10 ounce	All-purpose fabric for awnings, sun and wind shields, outdoor curtains, furniture, umbrellas, and interior decor.
31″	12 ounce	General utility awnings and furniture.
31″	15 ounce	Terrace awnings, canopies, carports, all types of stationary installations.
15″	10 ounce	Beach and lawn chairs, interior decor.

Number duck is the heaviest and strongest canvas made. It is woven from coarse carded, multiple-ply (2 to 15) yarns, free from sizing. In the gray state, number ducks are used for utility and industrial purposes. They are suitable for use as roof and sun deckings. In laying canvas roofing, be sure the surface is smooth and even. Stretch canvas over the area, nailing it to the roof, and paint immediately with five or more coats of deck paint or waterproofing compound. It should be repainted about once a year so that the canvas is not exposed to foot traffic.

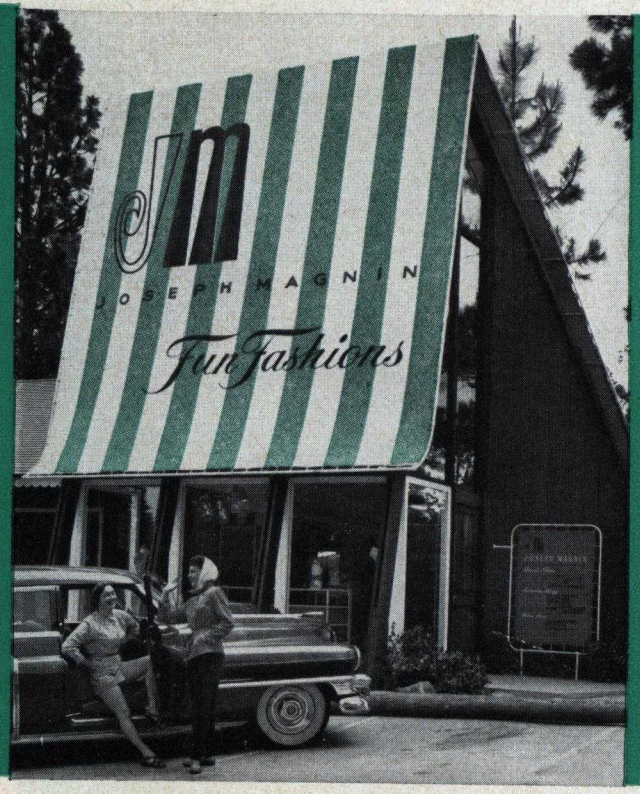
Flat ounce duck differs from army and number ducks in the weaving process which gives this type of duck a hard, long-wearing surface.

mildew, water, and fire resistant treatments

Canvas can be treated to meet U. S. Government specifications on mildew, water, and fire resistance. Your local canvas goods manufacturer can give you complete information.

complete fabrication service

Your local canvas goods manufacturer is completely equipped to fabricate all types of canvas structures. His experienced workmen can be depended on for sound craftsmanship in carrying out your design specifications. Canvas structures can be custom-made to shade any opening, cover any entrance, protect any area. Standard hardware fittings of all types are available. Color swatches and fabric weights will be furnished for design consideration. Look under "Awnings" in the yellow pages of your telephone directory for names of canvas goods manufacturers in your area.



Festive looking and cool in the heat of summer, this demountable canvas tent can be stored away in winter. Joseph Magnin's Cal-Neva Store, Lake Tahoe. Walter Landor, Industrial Design

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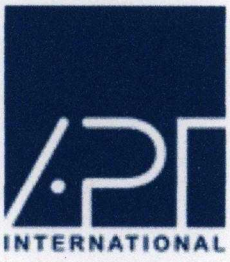

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